tecnare
sound systems

V SERIES USER'S MANUAL

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1 INTRODUCTION

Thanks for purchasing **TECNARE**. This product comprises the best quality designed to offer a professional use for many years.

V Series means Versatile loudspeakers, DSP controlled networking powered and non-powered, portable sound reinforcement products, ideally suited to all kinds of live performance, including stage monitoring

Common characteristics to all models are:

- Multiply Birch plywood enclosures.
- Highest quality speaker standards.
- Weather proof protection, both in speakers components and enclosures.
- Very high power capacity.
- Proprietary wave guide design.
- Hi-fi quality speaker response.

Active PCC advanced technology versions:

- Self-powered systems of high efficiency and low weight.
- Systems individually DSP controlled by software in real time.
- Graphical Equalizer of 30 bands by acoustic box.
- Parametric Equalizer of 10 bands by acoustic box.
- Individual control of gain, solo and mute.
- Individual Crossover of four bands Linkwitz Riley of 24dB/octave.
- Individual Compressor-Limiter by band.
- Variable delay on each band of up to 4 ms to adjust acoustic centers.
- Communication network able to operate, in real time, with up to 64 boxes

2 SAFETY

Some terminals carry electrical current of sufficient magnitude to constitute a risk of electric shock. Use only high-quality commercially-available speaker cables with ¼" TS plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of ininsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel

These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. READ THESE INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.

2. KEEP THESE INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED ALL WARNINGS

All warnings on the product and in the operating instructions should be adhered to.

4. FOLLOW ALL INSTRUCTIONS

All operating and use of instructions should be followed.

5. DO NOT USE THIS APPARATUS NEAR WATER

Do not use the product near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

6. CLEAN ONLY WITH DRY CLOTH

Unplug the unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

7. DO NOT BLOCK ANY VENTILATION OPENINGS

Slots and openings in the cabinet back or bottom are provided for ventilation, to ensure reliable operation of the limit and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. This product should never be placed near or over a radiator or heat source. This product should not be placed in a built-in installation such as a

bookcase or rack unless proper ventilation is provided or the manufacture's instructions have been adhered to.

8. DO NOT INSTALL NEAR ANY HEAT SOURCES

This Product should be situated away from heat sources such as radiators, stoves, or other products (including amplifiers) that produces heat.

9. DO NOT DEFEAT THE SAFETY PURPOSE OF THE POLARIZED OR GROUNDING-TYPE PLUG

A Polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prongs are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. PROTECT THE POWER CORD FROM BEING WALKED ON OR PINCHED PARTICULARLY AT PLUGS, CONVENIENCE RECEPTACLES, AND THE POINT WHERE THEY EXIT FROM THE APPARATUS.

11. ONLY USE ATTACHMENTS ACCESSORIES SPECIFIED BY THE MANUFACTURER.

12. USE ONLY WITH CART, STAND, TRIPOD, BRACKET, OR TABLE SPECIFIED BY THE MANUFACTURER, OR SOLD WITH THE APPARATUS. WHEN A CART IS USED, USE CAUTION WHEN MOVING THE CART/APPARATUS TO AVOID INJURY FROM TIP-OVER.

Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury to someone, and serious damage to the appliance. A unit and cart combination should be moved with care.

13. UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.

For added protection for this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL. SERVICING IS REQUIRED WHEN THE APPARATUS HAS BEEN DAMAGED IN ANYWAY, SUCH AS WHEN THE POWER SUPPLY CORD OR PLUG IS DAMAGED, LIQUID HAS BEEN SPILLED OR OBJECTS HAVE FALLEN INTO THE APPARATUS, THE APPARATUS HAS BEEN EXPOSED TO RAIN OR MOISTURE, DOES NOT OPERATE NORMALLY, OR HAS BEEN FROPPED.

15. WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

16. APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SHALL BE PLACED ON THE APPARATUS.

3 V SERIES FEATURES

V Series means Versatile loudspeakers, DSP controlled networking powered and non-powered, portable sound reinforcement products, ideally suited to all kinds of live performance, including stage monitoring.

It offers unbeatable audio performance, advanced PCC technology including networking and software control on each speaker. V Series are synonymous with exceptional sound quality and reliabilty and are designed for the most discerning musician and audio systems contractor.

It offers unbeatable audio performance, advanced PCC techonology features including networking and software control on each speaker. IBZA Series are synonymous with exceptional sound quality and reliability, designed for the most discerning Dj and audio systems contractor.

PCC technology transforms a standard powered speaker into an active device, namely a PCC speaker, controlled with a small laptop via software, A standard PCC speaker houses one or more module amps and a DSP processor. All these PCC speakers are linked by a network through a USB interface to the laptop.

Once connected, we can control in real time the parameters of each speaker such as volume, graphic equalisation, parametic equalisation, crossover, internal delays, compressor-limiters, check test, save and recall of presets, mute, transfer spectrum analysis, r.t.a. spectrum control, phase check, and more!

Consisting of seven models, and suitable for portable or fixed installation dance sound reinforcement applications, the IBZA Series has set the standard for professional disco loudspeaker systems.

Applications:

- Dance Clubs.
- Theatre and corporate events.
- Houses of workship.
- Touring.
- Live music venues.

Main Characteristics:

- Built in proprietary hardware for simple, fast and safe rigging.
- Enclosures made with the latest techniques ensuring a perfect and rigid construction.
- Weatherized finish is provided, as the cabinet is coated with rugged Durawound texture finish and protected with specially treated grills.
- 16mm or 18mm birch plywood. Finished in blck semimatt textured Durawood weatherized coating. One recessed carrying handle.
- Powder coated perforated steel grid with acoustically transparent reticulated foam.
- Max SPL: Up to 133dB Continuous.

4 SYSTEM'S FEATURES

V 10

Frequency Response: 52Hz-20kHz ±4dB
Nominal Dispersion: 90ºH x 60ºV @ -6dB
Impedance: 8 Ohm
Sensitivity: 97dB (1w/1m)
Calculated max SPL: 124dB Continuous
Power Handling: 350W nominal
700W continuous
Dimensions(HxWxD): 525x340x290mm
Net weight: 20kg selfpowered Pcc version.
Components: 1x10" LF driver, 1x HF driver on a rotatable exponential horn..

V 12

Frequency Response:
48Hz-17kHz ±4dB
Nominal Dispersion: 80ºH x 60ºV @ -6Db
Rotatable horn allows swap of horizontal and vertical pattern.
Impedance: 8 Ohm
Sensitivity: 100dB (1w/1m)
Calculated max SPL: 128dB Continuous
Power Handling: 520W nominal
1040W continuous
Dimensions(HxWxD): 645x390x392mm
Net weight: 29 kg selfpowered Pcc version.
Components:
1x12"LF driver, 1x1.5"HF driver on a rotatable exponential horn.

V 15

Frequency Response: 42Hz-17kHz ±4dB
Nominal Dispersion: 80ºH x 60ºV @ -6Db
Rotatable horn allows swap of horizontal and vertical pattern.
Impedance: 8 Ohm
Sensitivity: 101dB (1w/1m)
Calculated max SPL: 130dB Continuous
Power Handling: 720W nominal
1050W continuous
Dimensions(HxWxD): 715x455x395mm
Net weight: 34kg selfpowered Pcc version.
Components: 1x15" LF driver, 1x1.5"HF driver on a exponential horn.

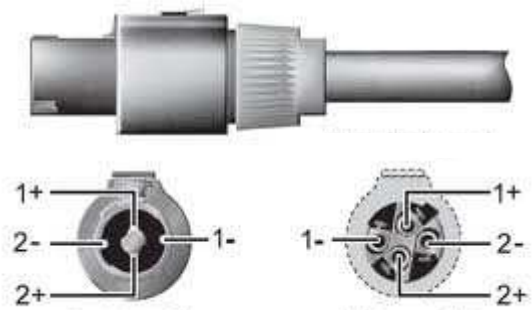
5 GENERAL SETUP INSTRUCTIONS

5.1 Passive Box

5.1.1 Speaker connection

Ibiza series are connected with Speakon NL4FC plugs.
Connectors are wired as follows:

Speakon Connector	V 10 V 12 V 15
1(+)	LF(+)
1(-)	LF(-)
2(+)	HF(+)
2(-)	HF(-)
3(+)	
3(-)	



The two socket speakon pins in the box are connected in parallel within the enclosure, so either connector can be used to connect an amplifier or to link to an additional Array series or Tenare unit.

Tecnare recommends a maximum length cable according to the section cable used.

	Section [mm²]		
Impedance	**1.5**	**2.5**	**2.5**
2	3	5	8
3	4.5	7.5	12
4	6	10	16
6	9	15	24
8	12	20	32
12	18	30	48
16	24	40	64

5.1.2 Amplifier selection

Tecnare recommends amplifiers in agreement with the table below:

Unit	Conf.
2 x V10	1 x MA800
2 x V12	1 x MA2400
2 x V15	1 x MA2400
4 x V10 + 2 x SW118M	1 x MA2400 + 1 x MH4000
2 x V12 + 2 x SW118M	1xMA2400 + 1 x MH4000
2 x V15 + 2 x SW118M	1xMA2400 + 1 x MH4000

5.1.3 V Series and DPA-28X

The DPA 28X is a complete 2 input - 8 output digital loudspeaker management system designed for the touring or fixed sound installation markets. The absolute latest in available technology is utilized with 64-bit floating point processors and high performance 24-bit Analogue Converters. The high-bit DSP prevents noise and distortion induced by truncation errors of the commonly used 24-bit fixed-point devices. A complete set of parameters include I/O levels, delay, polarity, 8 bands of parametric EQ per channel, multiple crossover selections, compressor, Limiter, USB and Ethernet port connection. Precise frequency control is achieved with its 1 Hz resolution.

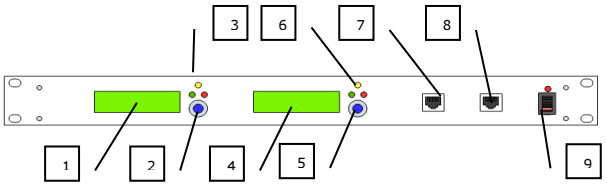
The DPA - 28X can be controlled or configured in real time on the front panel using the previously stored presets or with the intuitive PC software via the USB or Ethernet interface. The Ethernet port allows controlling the device from a long distance using just an Internet connection.

5.1.3.1 FEATURES

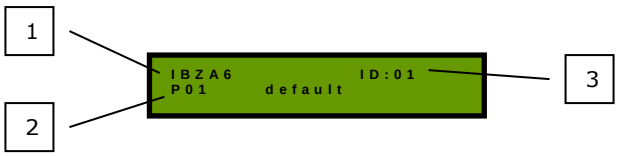
- 2 Input and 8 Outputs.
- 64 Bits floating point DSP
- High performance 24-bit A/D Converters
- 1 Hz Frequency Resolution
- Storage of up to 10 program setups
- Unlimited number of presets via software
- Uploading of 10 collection presets in one step via software

- USB port connection.
- Ethernet port connection
- 30 bands Input graphic equalizer.
- 8 bands Output Parametric equalizer per output channel
- 4 ways configurable Crossover
- Main Delay
- Input and output Compressor and Limiter
- Configurable Clock
- Noise Generator
- Sound Analyzer
- Phase inverter per band
- Mute
- Via adjustable delay

5.1.3.2 FRONT PANEL FUNCTIONS



1.-LCD Screen CH-A: Show all the necessary information to control de unit



1.- Unit name

2.-Shows the preset number and identification.

3.- ID of the Unit.

2.- Rotary thumb wheel CH-A: Controls the presets. To select the desire preset, press the wheel.

3.- On / SIGNAL / CLIP led CH-A: When On indicate the unit is On, Signal at the input and the input level is above the device's maximum headroom respectively.

4.- LCD Screen CH-A: Show all the necessary information to control de unit

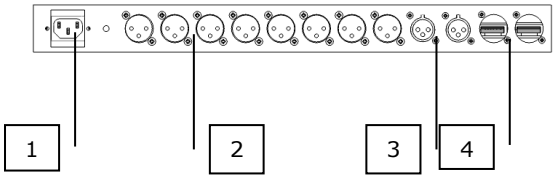
5.- Rotary thumb wheel CH-A: Allows you to switch between presets. To select the desire preset, press the wheel.

6.- On / SIGNAL / CLIP led CH-A: When On indicates the unit is On, Signal at the input and the input level is above the device's maximum headroom respectively.

7, 8.- Ethernet connector: Standard RJ-45 female socket.

9.- Power switch: Controls power On/Off.

5.1.3.3 REAR PANEL FUNCTIONS



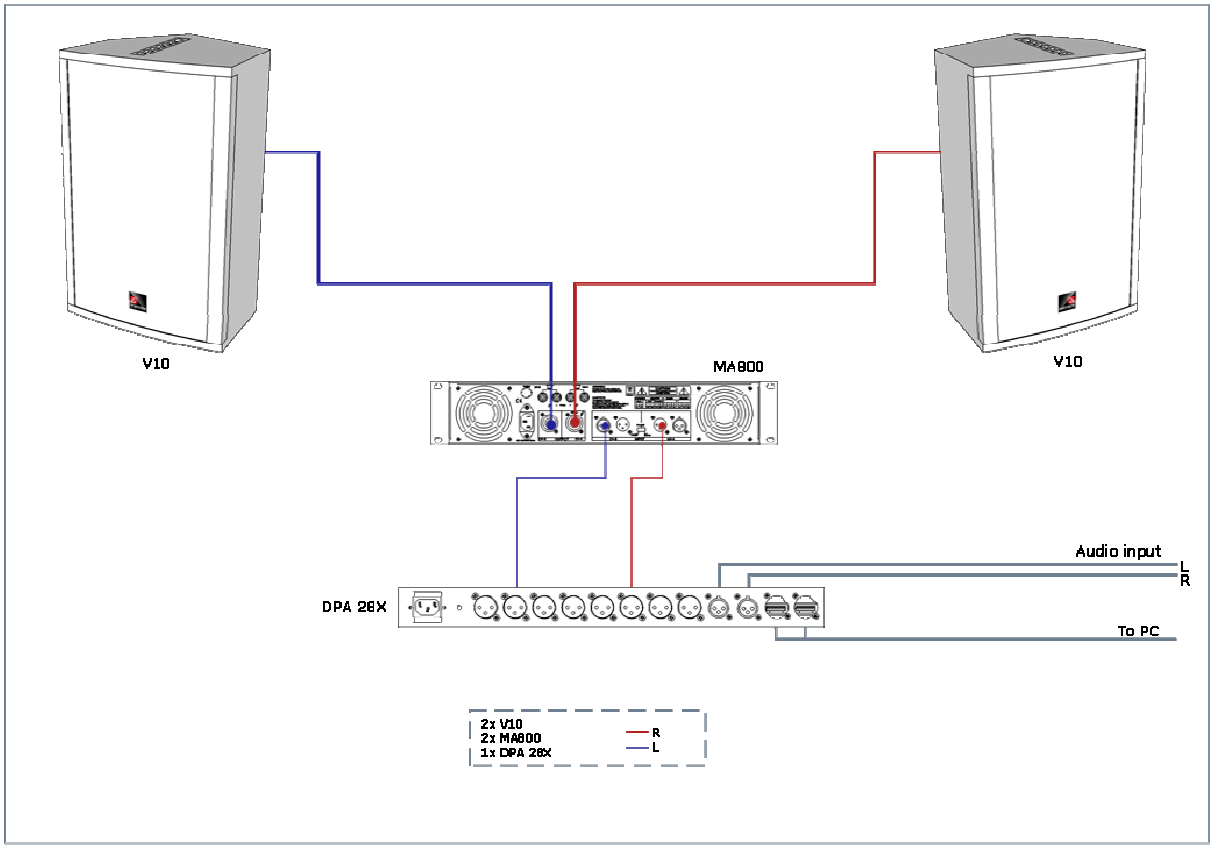
1.- Main Power: Connects via a standard IEC socket. A compatible power cord is supplied with the unit. The voltage input is either 115VAC or 230VAC and is clearly specified on the unit. Voltage requirement has to be stated upon ordering.

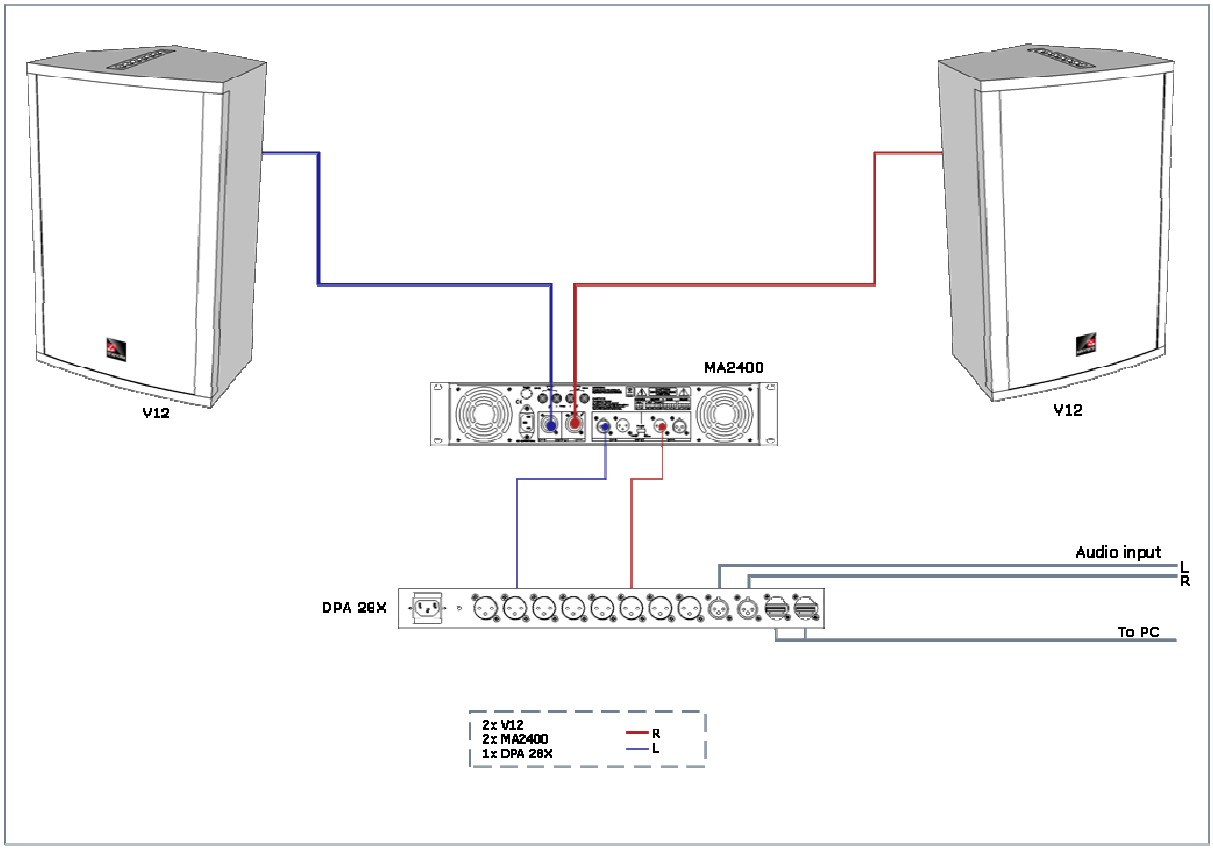
2, 3.- XLR input and outputs: Separate 3-pin XLR connectors are provided for each audio input and output. The device's output stage employs the balanced impedance topology. All I/O connectors have pin 1 as ground (shield), pin 2 as + and pin 3 as –

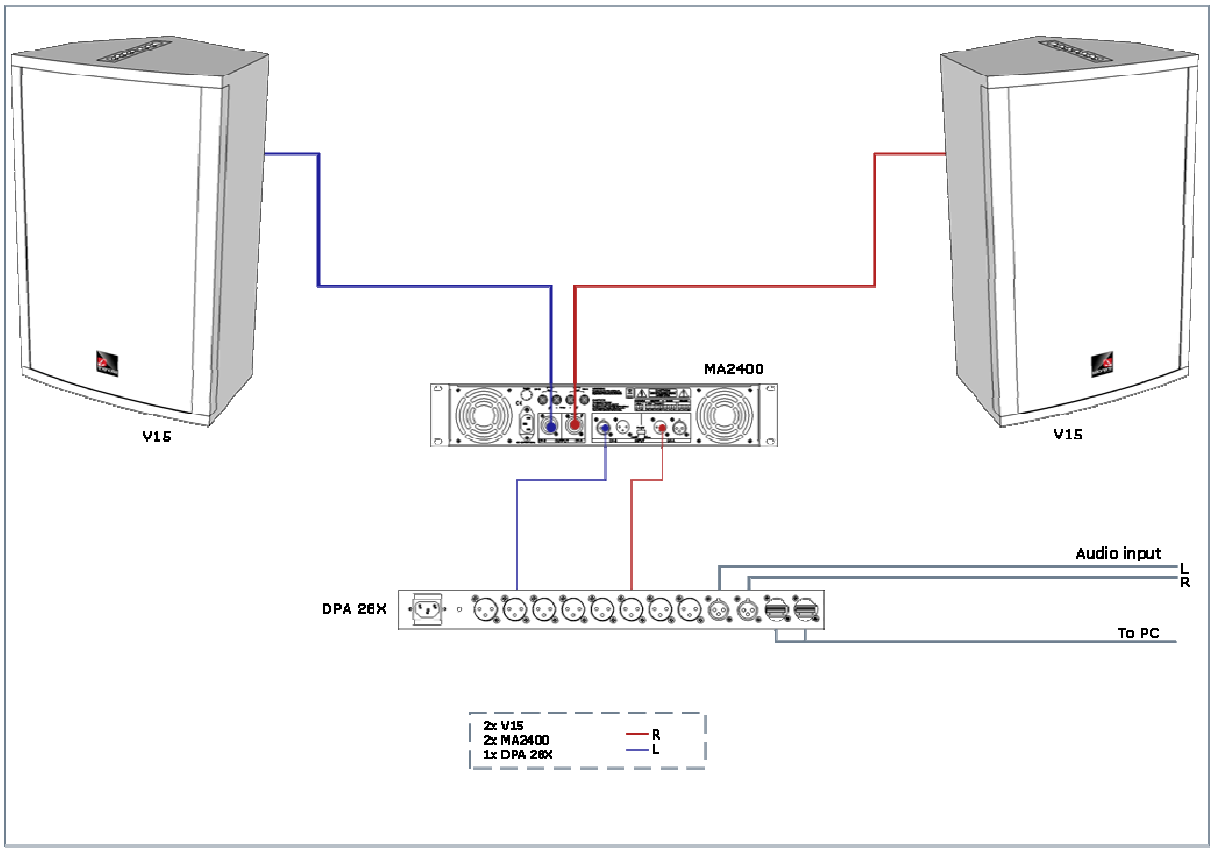
4.- USB connectos: USB connector per channel for PC connection.

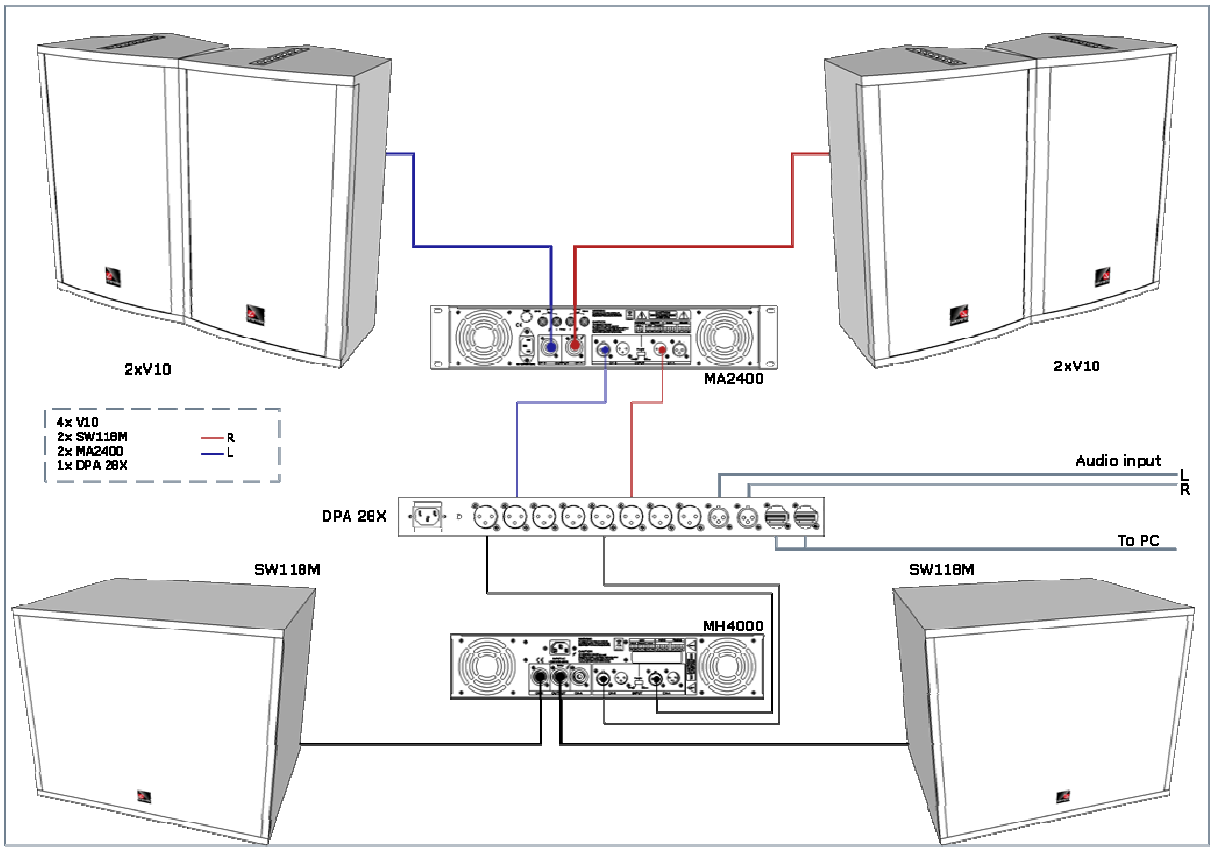
Note: Please refer to section 5.2.4 for further information.

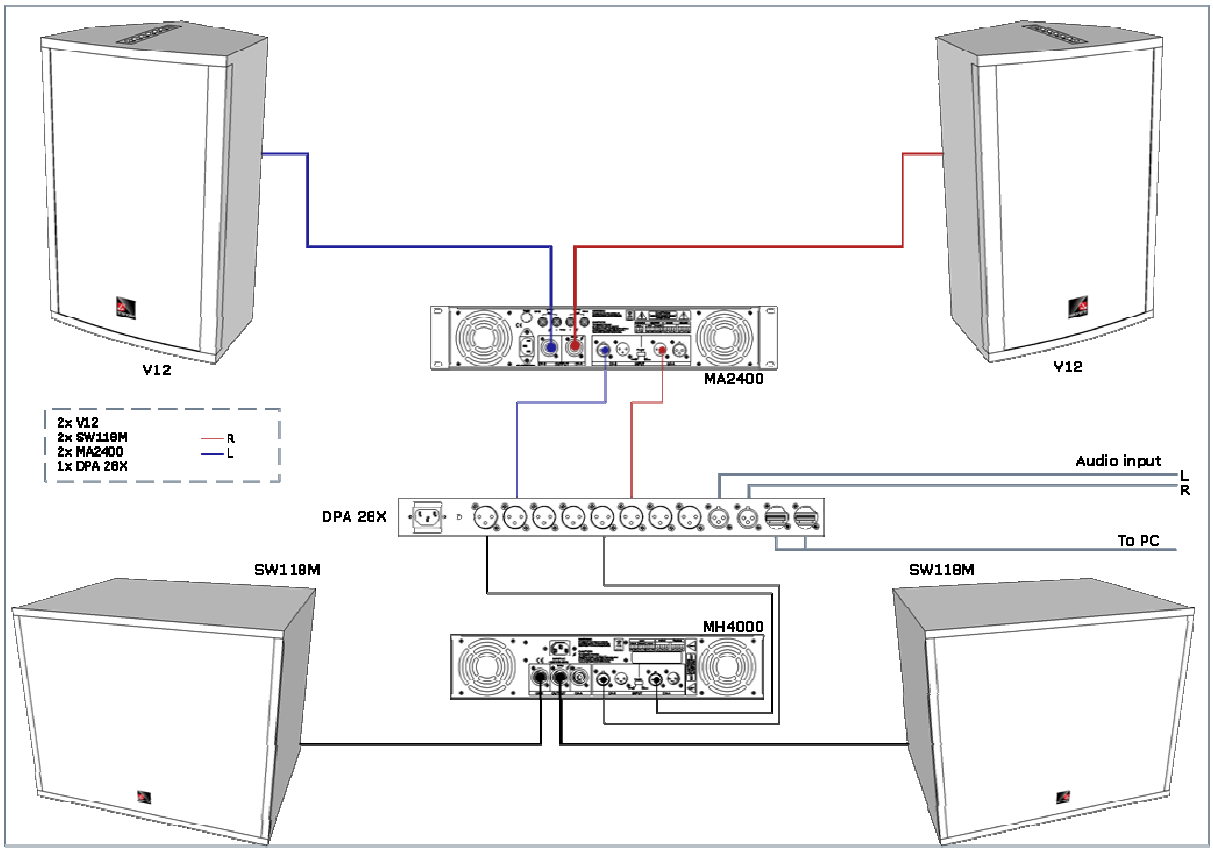
5.1.4 V Series Recommended configurations.

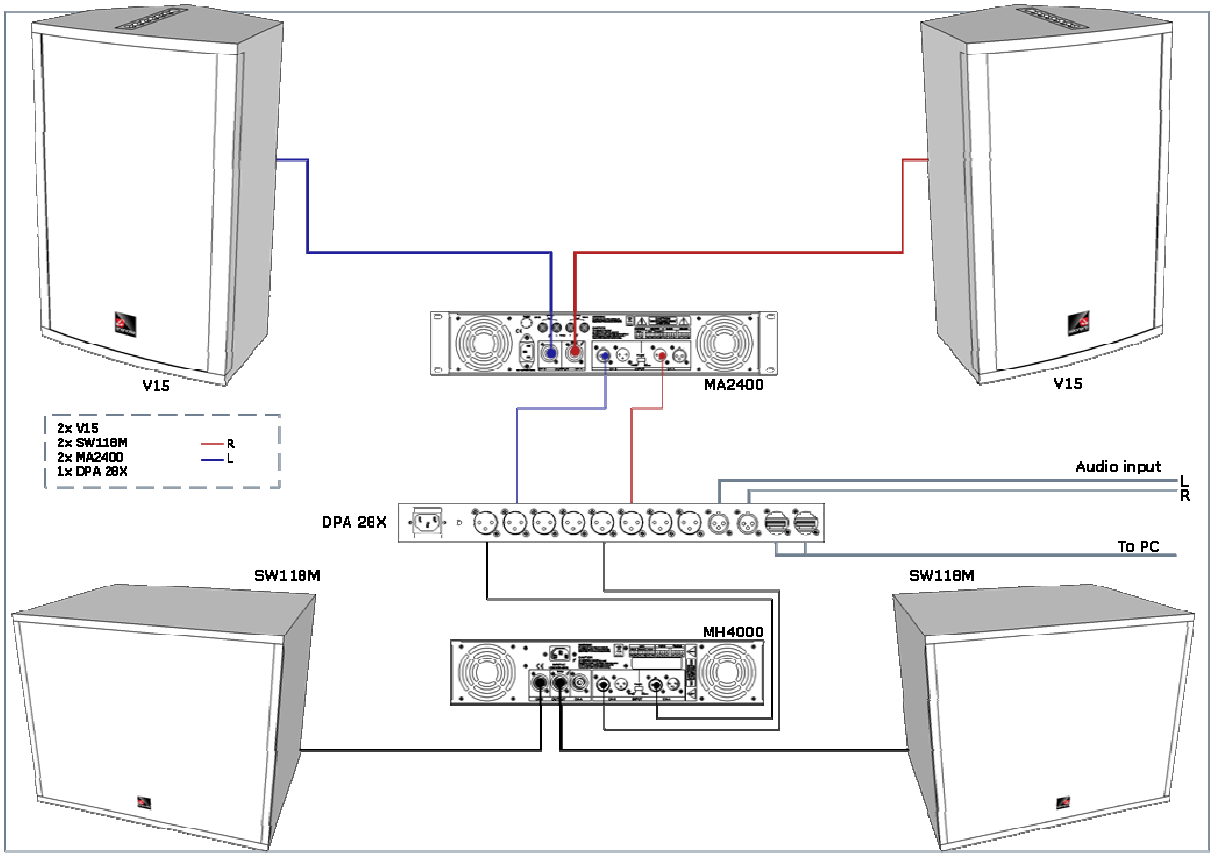





V15
MA2400
V15
Audio input
L
R
DPA 26X
To PC
2x V15
2x MA2400
1x DPA 26X
R
L


2xV10
MA2400
2xV10
4x V10
2x SW118M
2x MA2400
1x DPA 26X
R
L
Audio input
L
R
DPA 26X
To PC
SW118M
MH4000
SW118M


V12
V12
MA2400
2x V12
2x SW118M
2x MA2400
1x DPA 28X
R
L
Audio input
L
R
DPA 28X
To PC
SW118M
SW118M
MH4000


V15
V15
MA2400
2x V15
2x SW118M
2x MA2400
1x DPA 28X
R
L
Audio input
L
R
DPA 28X
To PC
SW118M
SW118M
MH4000

5.2 PCC ADVANCED SERIES

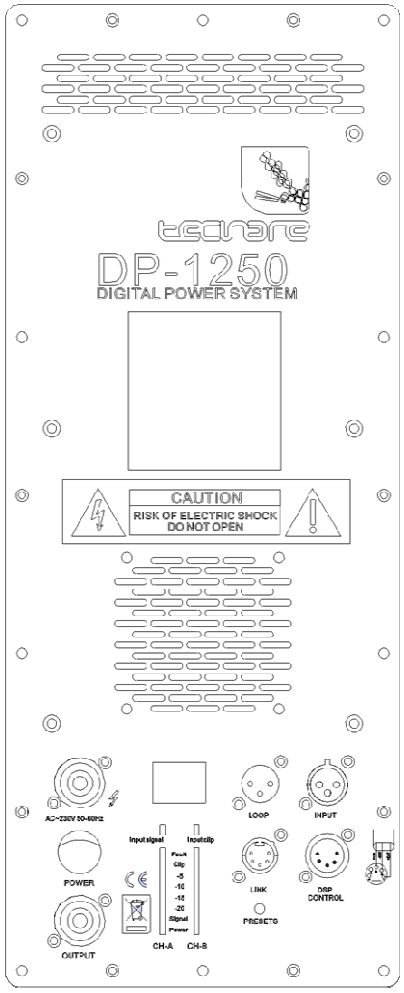
PCC Advanced series allows control in real time the parameters of each speaker individually or grouped as we decide, factors such as volume, graphic equalisation, parametric equalisation, crossover, box delay, clock settings, internal delays, compressor-limiters, check test, save and recall of presets, mute, transfer spectrum analysis, real time analyzer spectrum control, phase check…

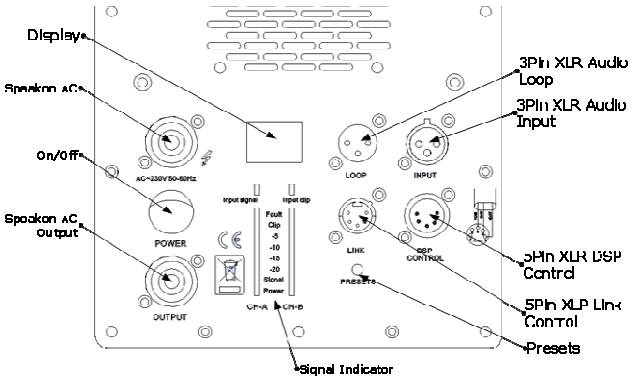
5.2.1 Main Features

- Ethernet control.
- 10 built in presets without the use of the software.
- Unlimited presets storage in the PC.
- Input graphic eq.
- Parametric eq on each band (4 x 8 bands).
- General Delay.
- 4 band crossover.
- Gain control.
- Mute control.
- Check test.
- Buit in Analyzer.
- Real time control.
- Presets storage in the PC.
- Grouping.
- Acoustic center control, between bands.
- Compressor / limiter in each output band.
- Input compressor / limiter.
- Clock set

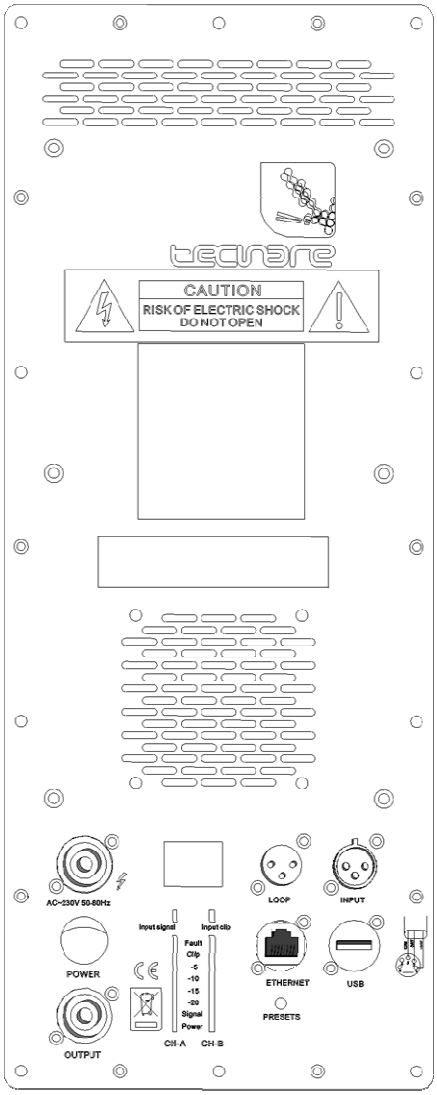
5.2.2 Back Panel

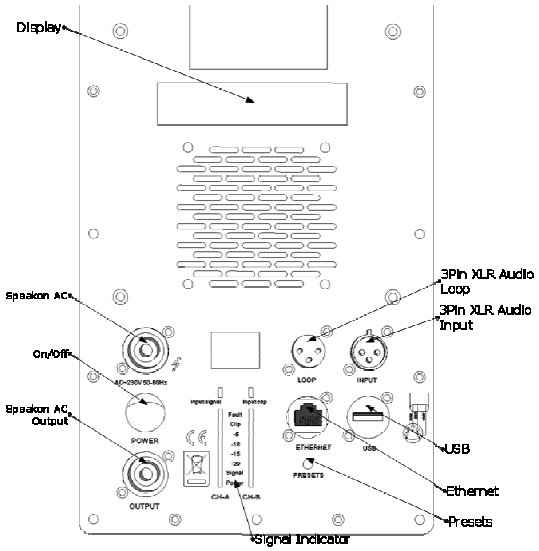
Original Series



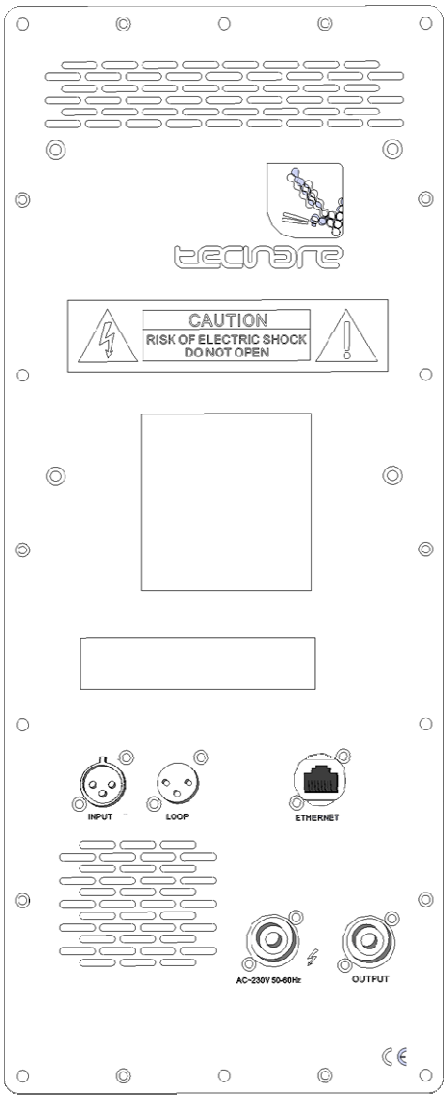


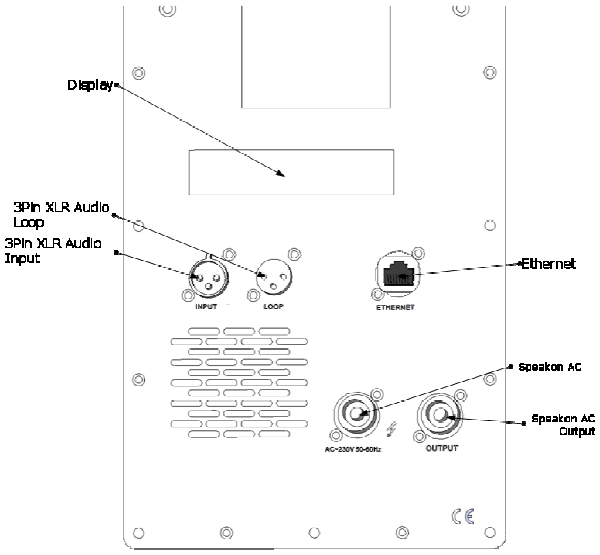
Advanced Series:



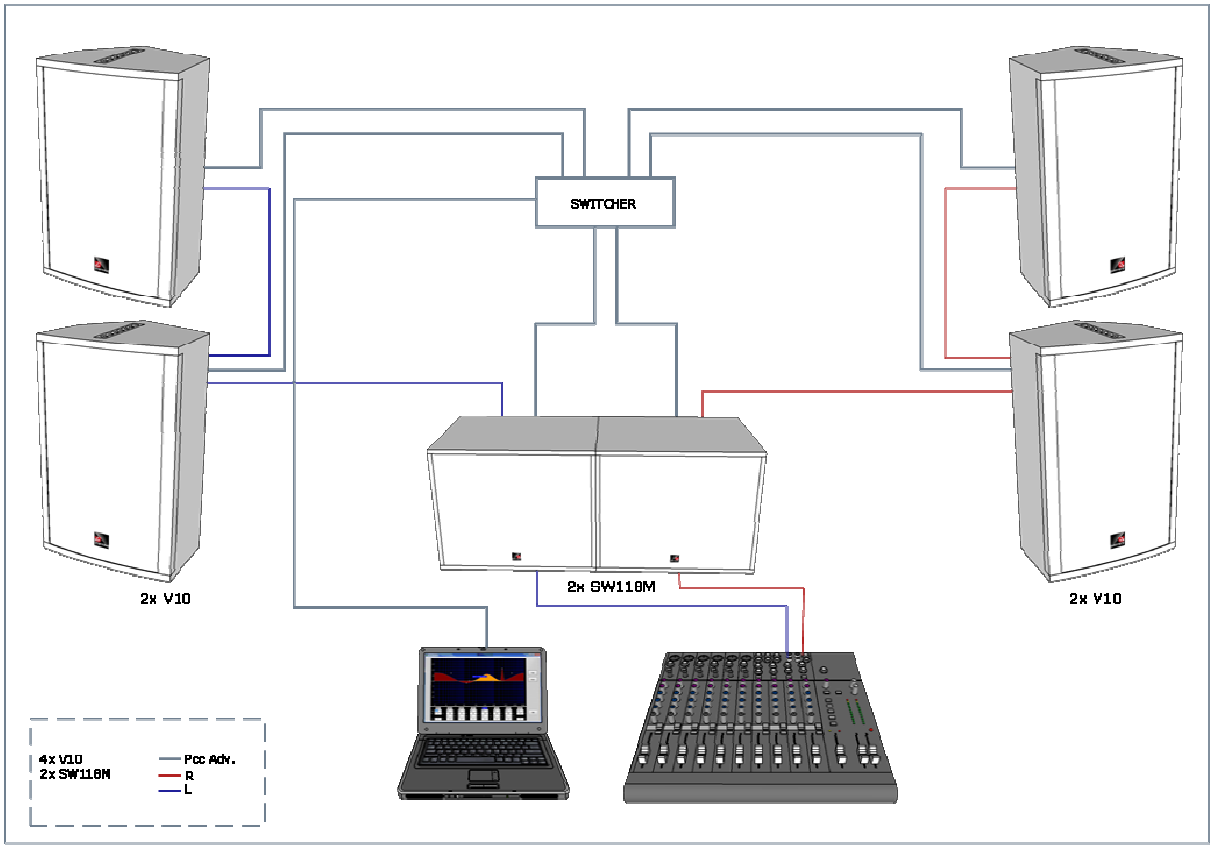


Cobranet Series:





5.2.3 Connection Diagram



5.2.4 Pcc Advaced Software User's Manual

5.2.4.1 INSTALLATION

1.- Click on Pcc12G_Setup.exe icon

2.- Follow the wizard instruction (for default installation you can press NEXT until the end)

* The estimated time required for first installation is about 1 minute.

* If asked by the wizard, restart the computer

3.- Connect the unit to the PC using the provided USB cable.

5.2.4.2 USING THE PCC CONTROLLER ADVANCED SERIES

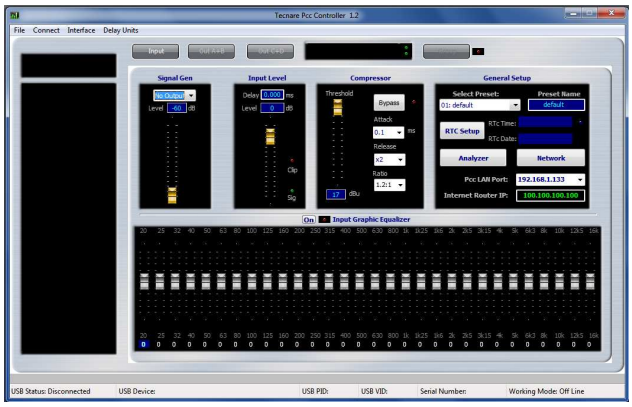
The Tecnare PCC Controller advanced series software application provides real-time control and configuration editing for the DPA-28X using a laptop or other PC-compatible computer.

In addition, the application provides control over each individual input channel: Gain, Graphic EQ, Compressor, main delay, and over each individual output channel: Crossover, 8 bands parametric EQ, phase inverter, mute, and delay. In addition, the application provides a powerful real time analyzer with pink noise generator capability.

Changes made in the PC software are immediately executed in the DPA-28X.

To start the application click on the PCC Icon on your desktop

It will appear a screen as is in the following image:



Open the Connect dropdown list and select On Line, this will connect your unit to your PC.

The user interface is divided into 4 sections:

- Menu Bar
- Network window
- Input section
- Output section

MENU BAR

The following menus are available in the Menu Bar at the top of the screen

FILE

- Load Preset: Click this option to Load an existing preset from your computer
- Save Preset: Save the current preset to a file
- Load Set: Click this option to Load a Set of 10 preset from your computer
- Save Set: Save the current set of 10 presets to a file.
- Exit: Exit the application

CONNECT

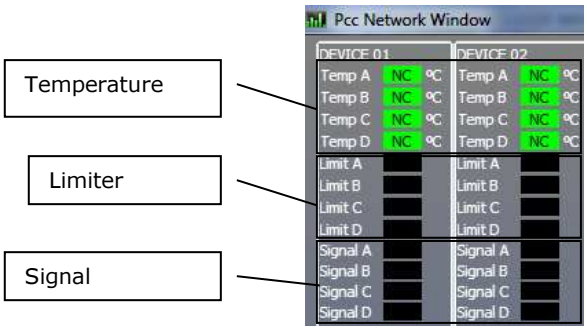
On line: Connects the computer to the unit.

DELAY UNITS

- ms
- meter
- feet

NETWORK WINDOW

When the PC is connected to the unit, the following information is shown at the upper left corner of the screen.

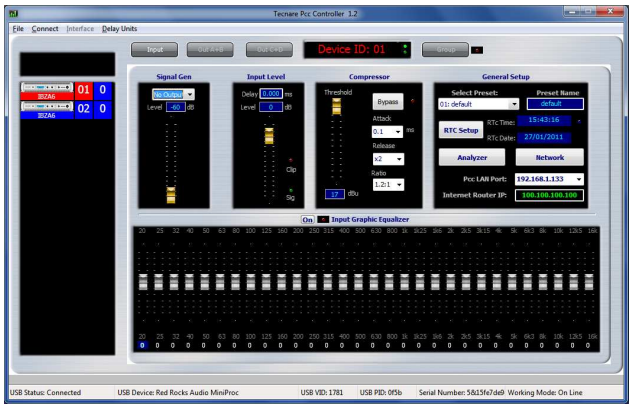


Temperature: It shows the temperature of each output channel.

Limiter: The limiter light show up when the audio limiter is acting.

Signal Indicator: When lighting a input signal is present.

INPUT SECTION

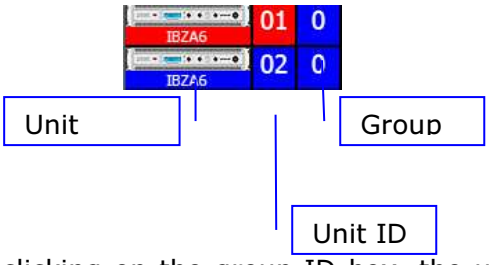


This section contains the following modules:

- Unit ID and grouping.
- Signal Generator
- Input Level
- Input Compressor
- General Setup
- 30 bands Graphic equalizer

UNIT ID AND GROUPING

It shows the units information connected to the PC, the active one is the one on Red. Double click to activate the unit.



By clicking on the group ID box, the user will be able to assign each unit to a group.

SIGNAL GENERATOR

By selecting active in the dropdown list, a pink noise signal is generated by the 8 output channels.

The output level is controlled by the fader control.

INPUT LEVEL

Main delay in ms, meters or feet can be adjusted in this section. The input level is adjusted by the fader control, it provides signal and clipping indicators.

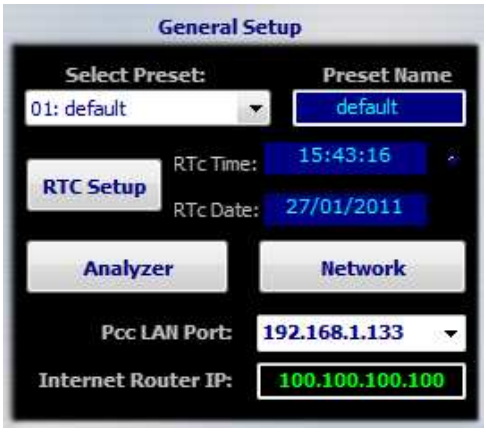
INPUT COMPRESSOR

The input compressor has four controls: Attack, Release, Threshold and Ratio. Click on the dropdown list to adjust each parameter. Click the Bypass button to turn it off.

About Compression: A compressor is used to reduce or limit transient peaks in a signal. As the input level to the compressor increases, the output level increases linearly until the threshold point is reached. After that point, the output level no longer increases linearly, but increases at a reduced rate that is determined by the ratio setting.

- Threshold: This control determines the level at which the compressor begins to act on the incoming signal. It is calibrated in decibels, with a range from –-40.0 dBu to 17 dBu.
- Attack: This determines how fast the compressor reacts once the threshold has been exceeded. It is calibrated in milliseconds, with a range from 1 ms to90 ms.
- Release: This determines how fast the compressor turns off once the signal falls below the threshold. It is calibrated in milliseconds, with a range from 10 ms to 2500 ms (2.5 seconds).
- Ratio: This determines the change in output level as a function of the change in input level, once the threshold has been exceeded. It is calibrated in decibels, with a range from 1.2:1 (off) to 30:1.

GENERAL SETUP



The following controls are available in the general Setup module:

- Presets
- RTC Setup
- Analyzer
- Network
- Pcc LAN Port
- Internet Router IP

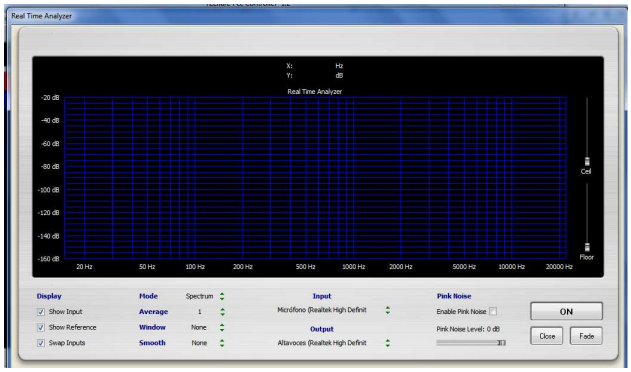
PRESETS

By pulling down the Select Preset dropdown list, 10 different preset saved in the unit can be selected.

Changes made in the PC software are immediately executed in the DPA-28X, and stored in the selected preset.
A Preset name can also be stored.

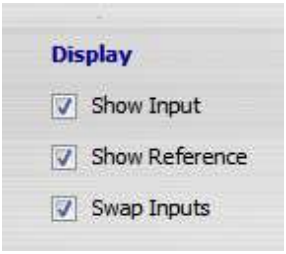
ANALYZER

This toggles the audio Analyzer window open and closed.



The following information is available in this window:

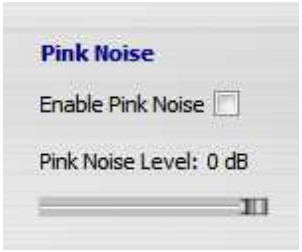
- Display: Allows the user to show/hide the input and reference signals.



- Parameters:

- Mode: The audio analyzer allows the user to work on four different modes:
  - Spectrum Analyzer
  - Transfer Function
  - Phase Response
  - Impulse Response
- Average: Eight different time average can be selected: 1, 5, 10, 20, 30, 50, 80 and 120.
- Window: Signal Windowing by None, Hamming, Triangular, Hanning and Blackman
- Smooth: Is the frequency average. None, 1/3, 1/6, 1/12, 1/24 Octave.
- Input and Output: Allows the user to choose the PC input and output device.

- Pink noise: Enable the pink noise generator. Note that the Pink noise can only be enabled when the analyzer is turned Off.

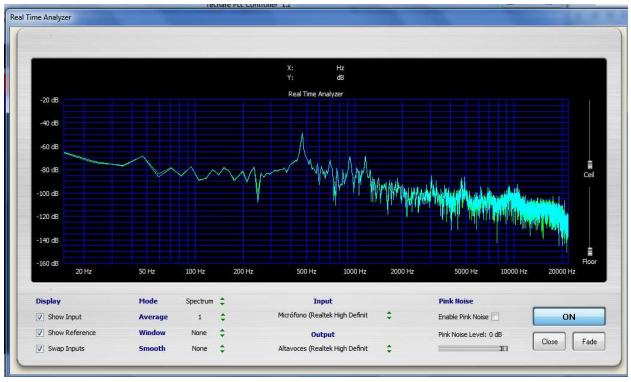


- Buttons:
  - On: Turn on and off the analyzer
  - Close: Close the analyzer window
  - Fade: It makes the window analyzer 50% transparent,

so the user can see the window behind.

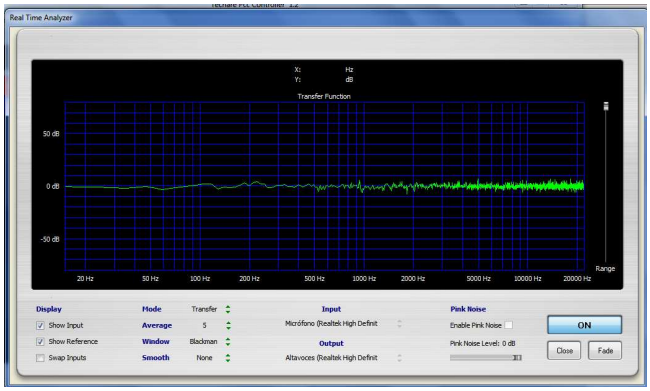
SPECTRUM ANALYZER

This feature allows the user to visualize the spectral components either of the input signal (given by a microphone connected to the PC) or the reference signal (output) it is also possible to visualize both signal simultaneously.



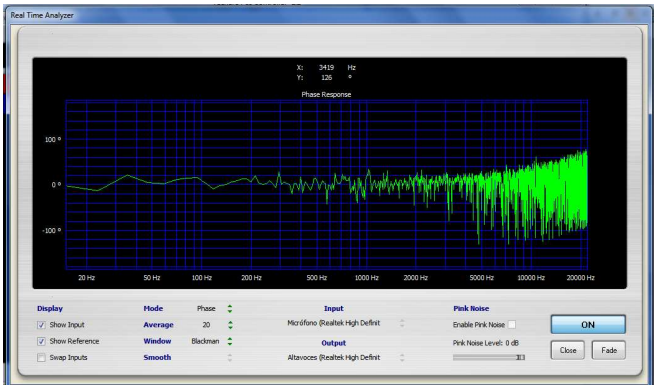
TRANSFER FUNCTION

It shows the systems transfer function, meaning the difference between the signal from the output of the DPA-28X to the microphone input signal.



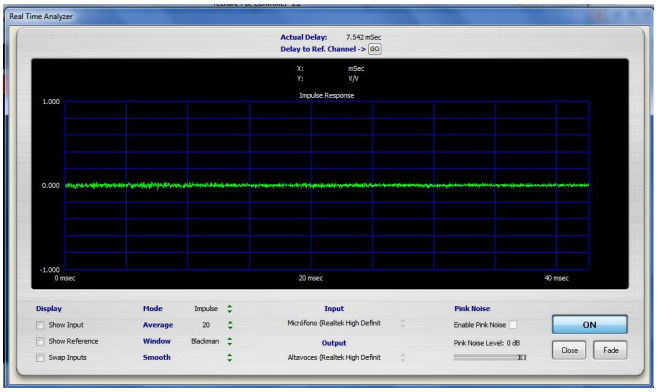
PHASE RESPONSE

It allows the user to analyze the phase response of an installation



IMPULSE RESPONSE

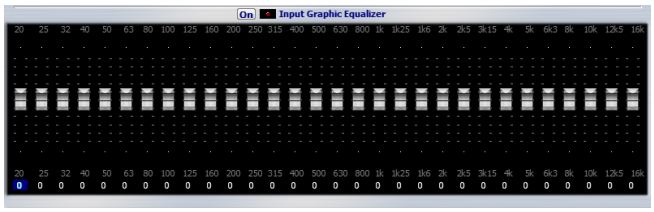
This tool provide the spectrum impulse response of a certain room.



NETWORK

This button toggles the network window open and closed. (Refer to 2.3 for more information)

GRAPHIC EQUALIZER

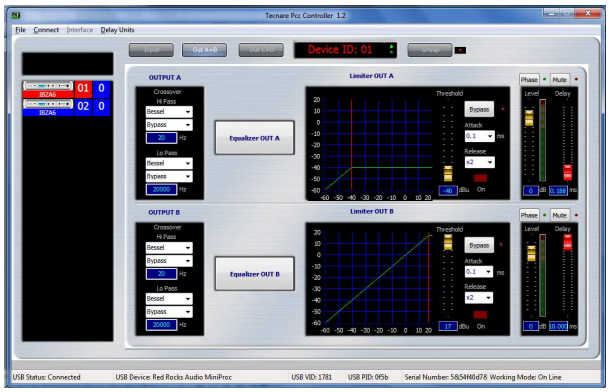


Click the ON button to turn the Graphic EQ on and off

Click and drag on the slider fader to adjust the equalization from -15dB to +15dB.

OUTPUT SECTION

The user can manage the output section by clicking on Out A-B and Out C-D buttons.



This section contains the following modules:

- Crossover
- Graphic EQ
- Limiter
- Level
- Delay
- Phase inverter
- Mute

CROSSOVER

This section contains two crossover filters per output.

Three different kinds of filters can be selected:

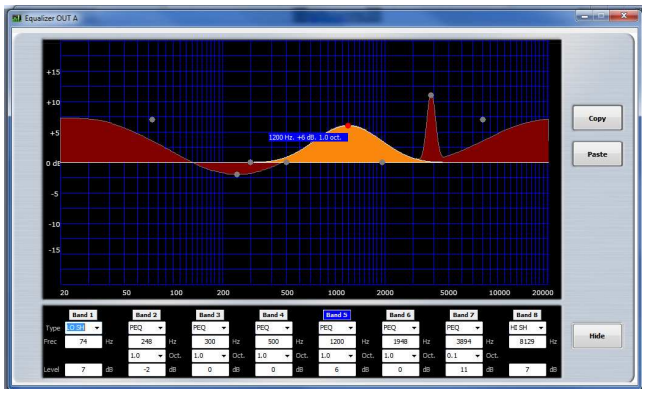
- Bessel
- Butterworth
- L-R

The order of the filter can be selecting by pulling down the Bypass dropdown list, Second Order filter (12dB/Octave) and Fourth Order filter (24dB/Octave) are available.

Filter cut-off Frequency ranges from 20 to 20,000Hz in 1Hz steps

PARAMETRIC EQ

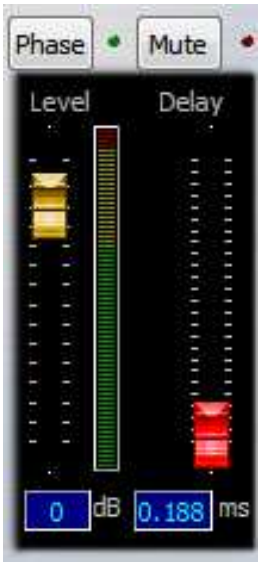
Eight bands parametric EQ can be opened by clicking on the Equalizer Out X button.



Four different settings can be adjusted by the user per band.

- Type: The user can select Hi Pass, Low Pass or band filter

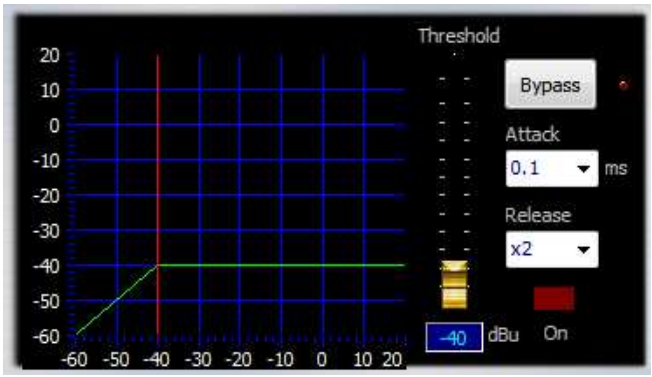
- Frequency: Ranges from 20 to 20,000Hz in 1Hz steps
- Bandwidth: Ranges from 0.1 to 2 Octaves
- Level: Ranges from -25dB to 25dB



The user can also modify the equalization (Frequency and level) by clicking and dragging the grey points on the screen, the selected band will turn from red to orange.

To copy the desire equalization to other output just click on Copy button, go to the desire output parametric EQ and click on the paste button.

LIMITER



- Threshold: The THRESHOLD controls are continuously adjustable from -40dBu (maximum limiting) to 17dBu
- Bypass: Turn the module in bypass mode.
- Attack: Ranges from 0.1 to 90ms
- Release: Ranges from 2x to 32x

LEVEL/DELAY

- Level: The output level can be adjusted from -60dB to 12dB, unit gain is at the 0dB position.
- Delay: Ranges from 0 to 10 ms
- Phase inverter.
- Mute.

5.3 RIGGING

5.3.1 Safety

Flown Systems

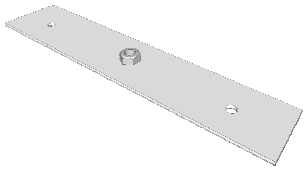
- Installation and set up must be carried out by qualified personal.
- Inspect the all the rigging components for damage before assembly. Do not use damaged parts. Contact your supplier for replacements.
- Ensure that motor hoists, hoist control systems and ancillary rigging components are currently certified as safe and that they pass a visual inspection prior to use.
- Ensure the work area is isolated from public access.
- Do not leave the system unattended during the installation process.
- Do not leave any object on top of the system. It may fall when the system is flown and is likely to cause injury.
- Secondary safety steels must be installed once the system has been flown to the operating height.
- Ensure that the system is secure and prevented from pivoting around the motor hoist.
- NEVER use other item than Tecnare accessories.
- When flying outdoor systems ensure that the system is not exposed to excessive wind or snow loads and is protected from rainfall.
- When deploying Tecnare Systems always wear protective headwear, footwear and eye protection
- Ensure that all local and National regulations regarding the safety and operation of flying equipment are understood and adhered to.

Ground Stacking

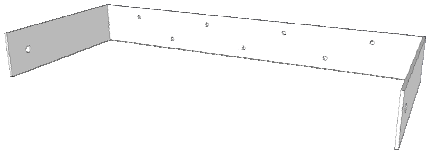
- Always employ safe lifting procedures and never attempt to build stacks without sufficient personnel and equipment.
- Never allow anyone to climb onto a ground stacked PA system.
- If the stage surface slopes, ensure that the system is prevented from sliding forwards due to vibration.
- For outdoor systems ensure that the system is protected from wind forces which might cause the ground stack or become unestable.
- Apply the same attention to all safety matters when de-stacking systems.

Accessories are:

- L_V



- LP_V



5.3.2 Single V10/V12/V15

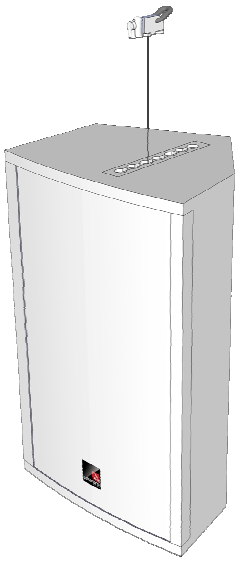
5.3.2.1 Flown Vertically

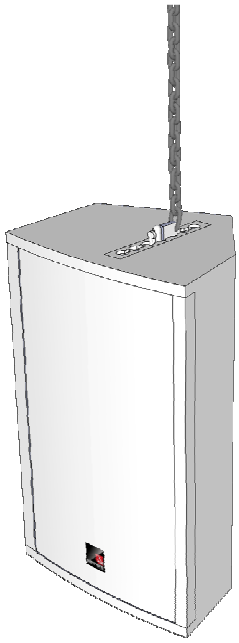
Items required:

- Double Stud Ring

Procedure:

- Place the Double stud ring into the cargo restraint track.





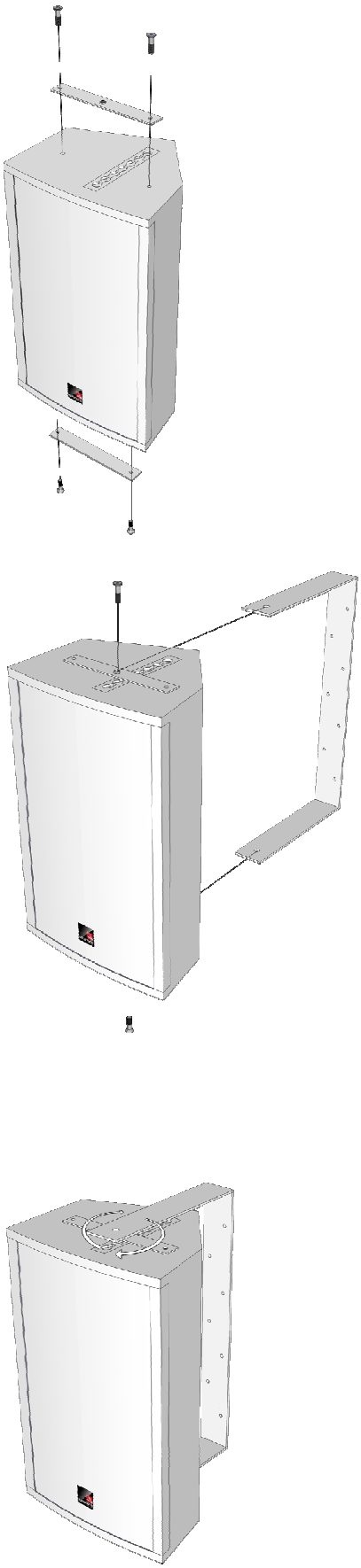
5.3.2.2 Mounted On a wall.

Items required:

- LP_V10/LP_V12/LP_V15
- L_V10/L_V12/L_V15

Procedure:

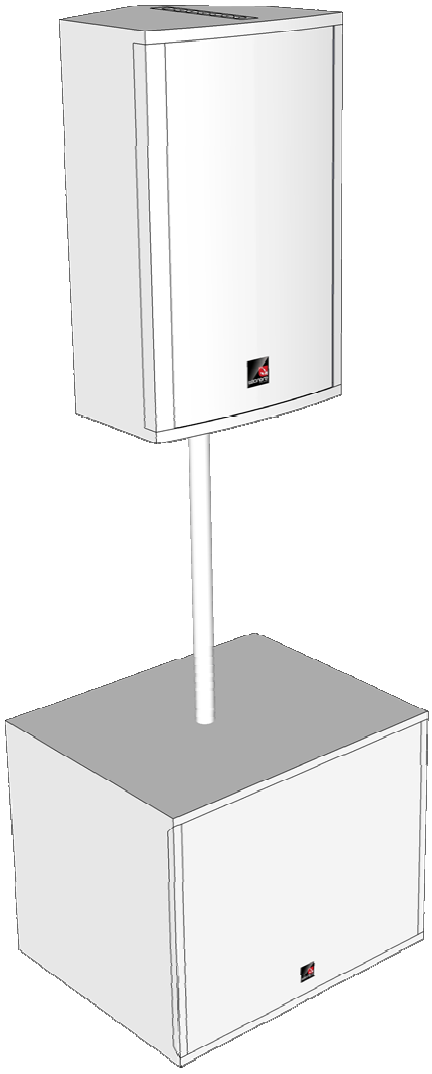
- Remove the two up-side screws from the box.
- Place the LP_V accessory and secure it with 2 screws.
- Hold the L_V10/L_V12/L_V15 to the wall.
- Place the unit into the L_V accessory and secure it with two screws.



5.3.2.3 On wind stand or on SW118

Items required:

- 1x Wind stand



6 Contact

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